CLAIMS

1. A reciprocating compressor driven by a linear motor comprising a shell, within which are mounted: a reference assembly formed by a motor and a cylinder (1); a resonant assembly formed by a piston (2) reciprocating inside the cylinder (1), and by an actuating means (3) operatively coupling the piston (2) to the motor; and two spring means (10) mounted to the resonant assembly and to the reference assembly and which are elastically and axially deformed in the displacement direction of the piston (2), characterized in that it comprises a mounting element (40) coupling an end of one spring means (10) to an end of the other spring means (10); and a coupling element (50) which has an end mounted to the piston (2) and an opposite end mounted to the mounting element (40), said mounting element (40) carrying the ends of the two spring means (10) coupled thereto and being axially displaced together with the piston (2) and displaced freely and transversally to the displacement direction of the piston (2), said coupling element (50) being constructed to transmit the axial forces between the piston (2) and the mounting element (40) and to minimize the application of radial forces to the piston (2).

2. The compressor according to claim 1, characterized in that the coupling element (50) is in the form of an elongated and relatively flexible rod.

3. The compressor according to any one of claims 1 and 2, characterized in that the coupling element (50) presents its ends respectively affixed to the mounting element (40) and to the piston (2).

4. The compressor according to any one of claims 1 and 2, characterized in that the coupling element (50) presents its ends respectively articulated to the

mounting element (40) and to the piston (2).

5. The compressor according to claim 4, characterized in that the coupling element (50) has its ends connected through a balljoint to the parts defined by the piston (2) and the mounting element (40).

6. The compressor according to any one of claims 1-5, characterized in that the mounting element (40) comprises a first annular portion (41) coupling an adjacent end of one of the two spring means (10), and a second portion (42) coupling an adjacent end of the other spring means (10), said first and second portions (41, 42) being axially spaced and affixed to each other and disposed on axially opposite sides of the resonant assembly, and part of the resonant assembly being disposed through said second portion (42).

7. The compressor according to claim 6, characterized in that the coupling element (50) is mounted to the second portion (42) of the mounting element (40).

8. The compressor according to claim 7 and in which the piston (2) presents a top portion and a tubular portion, characterized in that the coupling element (50) has part of its extension disposed within the body portion of the piston (2), having an end mounted to the top portion of the piston (2).

9. The compressor according to claim 8, characterized in that the first and second portions (41, 42) of the mounting element (40) are affixed to each other through rigid elements (43), which are angularly spaced to each other and mounted, with a radial gap, through the actuating means (3).

10. The compressor according to claim 1, characterized in that the actuating means (3) carries an annular disc (5), against which is coupled the piston (2).

11. The compressor according to claim 10,

characterized in that the second portion (42) comprises a disc which couples, from an external face and coaxially to the axis of the piston (2), the coupling element.

12. The compressor according to claim 11, characterized in that the second portion (42) presents an elevated annular peripheral edge, which defines, from a lower face, a housing for an adjacent end of a spring means (10).